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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,188	10/24/2003	Peter J. Pupalaikis	455610-2620.1	2321
20999	7590	06/13/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			WACHSMAN, HAL D	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/693,188	PUPALAIKIS ET AL.	
	Examiner	Art Unit	
	Hal D. Wachsman	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-16 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-14 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7,9,15,16,18,21 and 23 is/are rejected.
- 7) ☒ Claim(s) 5,6,8,19,20 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1-21-05</u> | 6) <input type="checkbox"/> Other: _____  |

1. The specification amendment in the reply filed 3-29-05 which adds two paragraphs on page 5, after line 8, is improper under 37 C.F.R. 1.121 because the text of these two new paragraphs have been underlined. In addition, the Examiner respectfully notes for a few other specification amendments the amendment indicated "...*rewrite* the paragraph.." however under the current 37 C.F.R. 1.121 rules specification paragraphs are *replaced* when amended. Appropriate correction is required.
2. The new drawings Figures 4A-4P and 5A-5P filed 3-29-05 are improper under 37 C.F.R. 1.121 because these drawing sheets were not identified in the top margin as "New Sheet". These new drawings are also improper under 37 C.F.R. 1.84 because each mathematical formula must be labeled as a separate figure (a number of the drawings have several formulas on them) and some drawing sheets have several drawings on them which have not been separately labeled. Also there are at least several drawings, such as Figure 5I for example, which contains paragraphs of textual description, which are not appropriate to have in a drawing but are appropriate to have in the specification. The Applicant's remarks section in the reply filed 3-29-05 indicated that Appendices A and B are submitted as "new tables" in these new figures and permitted by section 608.05(b). However, the Examiner respectfully notes that review of the Appendices as well as newly submitted Figures 4A-4P and 5A-5P clearly show that what is contained in these new figures are not tables but rather are formulas, graphs and textual subject matter relating to the formulas and graphs. Appropriate correction is required.

3. The amendment to the Brief Description of the Drawings on page 5 which states with respect to the new figures "...are tables that are helpful in understanding the present invention" does not provide a brief description of what these new figures show. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 4, 9, 15, 16, 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elder (5,659,546) in view of Murphy (2004/0041599).

As per claim 1, Elder (Abstract, col. 2 lines 47-49) discloses "receiving an input analog data signal". Elder (Abstract, col. 2 lines 54-56) discloses "splitting the received input analog data signal into a plurality of split signals". Elder (Abstract, figures 4A, 4B, 5A-5C, col. 2 lines 49-51, 64-66) discloses "mixing at least one of said split signals with a predetermined periodic function with a predetermined frequency". Elder (see at least abstract) discloses "digitizing said split signals". Elder (Abstract, col. 5 lines 47-50) discloses "combining said digitized split signals...a substantially correct representation of the received input signal". It appears though that Elder does not clearly disclose that the predetermined periodic function is a low-distortion sinusoid. However, Murphy (Abstract, paragraphs 0004, 0012, 0013, 0020, 0053, 0061) teaches this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Murphy to the invention of Elder as specified above because as taught by Murphy (paragraph 0074) the invention was intended to enable **data converters (analog-to-digital converters** or digital-to-analog converters) which are reliable, simple to design, compact in structure, and power-efficient.

As per claim 2, Elder (see at least abstract) discloses the input analog signal being split by a splitter and it is inherent in the art that a 50 Ohm splitter is one type of splitter.

As per claim 4, Elder (Abstract, col. 2 lines 56-58, 59-61, col. 3 lines 8-11) discloses the feature of this claim.

As per claim 9, Elder (see at least abstract) discloses the feature of this claim.

As per claim 15, Elder (Abstract, col. 2 lines 47-49) discloses "an input for receiving an input analog data signal". Elder (Abstract, col. 2 lines 54-56) discloses "a splitter for splitting the received input analog data signal into a plurality of split signals". Elder (Abstract, figures 4A, 4B, 5A-5C, col. 2 lines 49-51, 64-66) discloses "a mixer for mixing at least one of said split signals with a predetermined periodic function with a predetermined frequency". Elder (see at least abstract) discloses "a digitizer for digitizing said split signals". Elder (Abstract, col. 5 lines 47-50) discloses "a combining unit for combining said digitized split signals...a substantially correct representation of the original input signal". It appears though that Elder does not clearly disclose that the predetermined periodic function is a low-distortion sinusoid. However, Murphy (Abstract, paragraphs 0004, 0012, 0013, 0020, 0053, 0061) teaches this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Murphy to the invention of Elder as specified above because as taught by Murphy (paragraph 0074) the invention was intended to enable **data converters (analog-to-digital converters or digital-to-analog converters)** which are reliable, simple to design, compact in structure, and power-efficient.

As per claim 16, Elder (see at least abstract) discloses the input analog signal being split by a splitter and it is inherent in the art that a 50 Ohm splitter is one type of splitter.

As per claim 18, Elder (Abstract, col. 2 lines 56-58, 59-61, col. 3 lines 8-11) discloses the feature of this claim.

As per claim 23, Elder (see at least abstract) discloses the feature of this claim.

6. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elder (5,659,546) in view of Murphy (US 2004/0041599) as applied to claims 1 and 15 above, and further in view of McGeehan et al. (5,950,119).

As per claim 7, McGeehan et al. (Abstract, col. 1 lines 4-9, col. 3 lines 28-30) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of McGeehan et al. to the inventions of Elder and Murphy as specified above because as taught by McGeehan (col. 1 lines 5-8) it provides an image-reject mixer which can be used in a wideband receiver and any receiver circuit must be designed such that it is able to reject signals in the image band.

As per claim 21, McGeehan et al. (Abstract, col. 1 lines 4-9, col. 3 lines 28-30) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of McGeehan et al. to the inventions of Elder and Murhpy as specified above because as taught by McGeehan (col. 1 lines 5-8) it provides an image-reject mixer which can be used in a wideband receiver and any receiver circuit must be designed such that it is able to reject signals in the image band.

7. Claims 10-14 and 24-28 are allowed subject to the appropriate correction of the 37 C.F.R. 1.75(a) objections noted in paragraph 4 above.

Claims 5, 6, 8, 19, 20 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and subject to the appropriate correction of the 37 C.F.R. 1.75(a) objections noted in paragraph 4 above.

8. The following reference is cited as being art of additional general interest: Testani (3,903,484) which discloses a low distortion, amplitude stable quadrature oscillator.

9. Applicant's arguments with respect to the claims that are rejected above have been considered but are moot in view of the new ground(s) of rejection that has now been made as a result of further search and review.

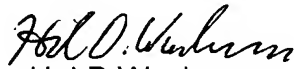
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D. Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 2857

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Hal D Wachsman  
Primary Examiner  
Art Unit 2857

HW  
June 9, 2005